5709

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Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

November 27, 2013

Kelly Payne
Kennecott Utah Copper, LLC
4700 Daybreak Parkway
South Jordan, Utah 84095

Subject: First Review of Amended Notice of Intention to Commence Large Mining Operations, Kennecott Utah Copper, LLC, Copperton Concentrator, M/035/0011, Salt Lake County, Utah

Dear Mr. Payne:

The Division of Oil, Gas and Mining has completed its review of the referenced amended Notice of Intention to Commence Large Mining Operations (Notice) which was received October 31, 2013. The attached comments will need to be addressed prior to final approval. Thank you for organizing the submittal according to the R647 rules.

The Division requests that the response include redline/strikeout text so changes are easier to identify. When the Notice is determined technically complete, the Division will ask that you submit two clean copies of the complete and corrected plan. Upon final approval, both copies will be stamped approved, and one will be returned for your records.

The Division will suspend further review of the amended Notice of Intention until your response to this letter is received. Please contact the appropriate reviewer with questions: Leslie Heppler (lah, 801-538-5257), Mike Bradley (mpb, 801-538-5332), April Abate (aaa, 801-538-5214), Wayne Western (whw, 801-538-5263), or Peter Brinton (pnb, 801-538-5258). Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: lah: eb
Attachment: Review
cc: Dan Hall and Mike George, DWQ (dhall@utah.gov and mgeorge@utah.gov)
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UTAH DNR
OIL, GAS & MINING

First REVIEW OF NOTICEOF INTENTION
TO COMMENCE LARGE MINING OPERATIONS
Kennecott Utah Copper LLC
Copperton Concentrator
M/035/0011
November 27, 2013

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1	General	The Division may generate additional comments based on the response to this review. (Comment only; no response needed.)	lah	
2	General	Please add the following documents in the appendix for public record. 1. Add the date for the OGM documents. Specifically add the date of approval, and bundle under one appendix. 2. Bundle other agencies' approvals under a different appendix, and add the date of approval and permit identification number. 3. Add a third appendix for the "other references."	lah	

R647-4-104 – Operator Information and Surface and Mineral Ownership

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
3	Page 3- 2.	Please add the name of the person who has legal authority to bind the operator at the time of this amendment approval. This person must be listed on the Division of Corporations web site as a member or manager.	lah	
4	Page 3-3.	Please add the name of the Environmental Manager. This person may be given authorization to sign for the operator.	lah	
5	Page 3-4.	Include Section 6 and note that the plant is in Section 5 and 6.	lah	
6	Page 3-4.	Include a separate list with the Township, Range, and Sections for the Sections covered by the pipelines and conveyor system.	lah	
7	Page 3	This page may contain a typographical error. Should this say "surface rights?"	lah	
8	Omission	Please state who owns the mineral rights.	lah	

R647-4-105 - Maps, Drawings & Photographs

105.1 - Topographic base map, boundaries, pre-act disturbance

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
9	Figure 1	Include Township Range and Section lines.	lah	
10	Figure 1	It is not clear which side of the property boundary belongs to Kennecott; please lightly shade or hatch the Kennecott holdings.	lah	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
11	Figure 1, 3	The Division recommends that the permit area for the Copperton Concentrator (M/035/0011) be extended to the north to include pipelines, and that the permit area for the Bingham Canyon mine (M/035/0002) be reduced accordingly.	lah	
12	Figure 1	Label Barneys Canyon mine and include the permit numbers for both Barneys Canyon and Bingham Canyon in the text box.	lah	
13	Omission	Please include a topographic contour map base map to cover the area shown in Figure 2. This map will be the basis for the cross sections required as per R647-4-105.3 listed below and used for regrading.	lah	
14	Omission	Include a map as per R647-4-105.1.12 and R647-4-105.2.11 which shows all the utilities, such as electric and gas lines, and other items in these rules.	lah	
15	Figure 1	Label any springs in the permit area.	aa	

105.2 - Surface facilities map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
16	Figure 2	Include the pipeline corridor as disturbed area.	lah	
17	Figure 2	Include notes on the north and south sides of the map indicating the distance the pipeline extends to the north and south.	lah	
18	Figure 2	Add the acres disturbed to the map. This should match the number of disturbed acres in the last paragraph of page 6. Is the 368 acres the pink shaded area or the area inside the red line?	lah	
19	Figure 3	In this figure, the boundary line for the Bingham Canyon permit makes it difficult to tell where the boundary is for the Copperton Concentrator permit. The Division suggests hatching or lightly coloring the area for the Copperton Concentrator permit.	lah	
20	Omission	Include a map as per R647-4-105.1.		
21	Omission	Please include a map(s) that shows all the structures described in the demolition cost estimate. The structures on the map(s) should have the same name or identifying number as those on the demolition list. Such a map is needed so that an inspector can quickly compare structures on the ground with those in the plan.	whw	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
22	Omission	Include a post reclamation contour map, as per R647-4-105.3.12 and R647-4-105.3.17. As per R647-4-105.3.11, note any slopes that are to be left steeper than 2H:1V.	lah	
23	Figure 4	Please expand the scale of Figure 4 to show the origination points of the ore conveyor and mine water quality line. The current figure shows these pipelines cutting off on the south side.	aa	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
24	Figure 7	Include perennial stream and springs and other bodies of water as per R647-4-105.1.12. Include water impounding structures as per R647-4-105.3.13, and sediment ponds, diversion channels, culvert size and location and other hydrologic features as per R647-4-105.3.13 and R647-4-105.3.13. In summary include all hydrologic features on one map. As per R647-4-105.3.18, include the hydrologic basins. If any features listed above are not in the permit area, include a note on the map that they are not present.	lah	
25	Figure 8	Include orientation of bedding and structural geology on the map as per R647-4-105.3.16.	lah	
26	Figure 8	Include the disturbed land as a hatched symbol over the geology. The disturbed shape does not match the actual disturbed ground.	lah	
27	Figure 8	Please fix the legend. There are several units listed that are not on the map, and several colors are too similar. Geologic Units should be organized from youngest to oldest, with youngest on top. Include the age of the units. Alluvial deposits are shown on either side of the bedrock units. A stratigraphic column would be beneficial and would eliminate detailed lithologic descriptions under 106.8.	lah	
28	Figure 10	Include the post closure facilities reclamation cost in a separate section of the Bond calculations.	lah	
29	Omission	Section 110.4 indicates that acid generating materials will be removed from this site to the extent economically feasible. The locations of deleterious or acid-forming materials upon completion of reclamation needs to be shown on a map per R647-4-110.4, or the plan needs to discuss the final disposition of these materials.	pnb	
30	Omission	Please include an additional figure of the concentrator facilities depicting the hydrologic design features such as sediment ponds, diversion channels, culvert sizes and locations. Include both disturbed and undisturbed drainage routing patterns. Please also include on this map the storage locations of fuels, oils, and mineral processing chemicals.	aa pnb	

105.4 - Photographs

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
31	Omission	The Division recommends including photo documentation.	lah	
32	Figure 9	The text box adjacent to the lime plant on this figure points to a laydown yard. Will the laydown yard be relocated to the HDS Treatment Facilities area?	lah	

105.5 – Underground and Surface Mine Development Maps

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
33	Omission	At the bottom of page 4, include a note if there are no underground workings at this time or in the future.	lah	

R647-4-106 - Operation Plan

106.1 - Minerals mined

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
34	Page 5	As per R647-1-106, the definition of mining operation includes concentrating and milling. Please restate to follow the definition in the rule. Include a list of minerals extracted as concentrate.	lah	

106.2 - Type of operations conducted, mining method, onsite processing, deleterious materials

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
35	106.2.1	Please include information in this section discussing any chemicals of concern that are used in the processing facility that meet the definition of deleterious or acid forming. This may include but not limited to reagents, solvents, thickeners, surfactants used in mineral processing. Please include information for both the processing at the concentrator as well as the proprietary process at the experimental ore sorting plant. Information about proprietary processes may be kept confidential.	aa	
36	Page 5	Identify deleterious or acid-forming materials (e.g. crushed ores, concentrates, mine waste water, water treatment sludge, and any other processing waste, etc.) that are or will be on-site as a result of mining or mineral processing. Refer to Section 106.4 for a discussion about the nature of mined and processed materials. Identify why any such materials are considered deleterious.	pnb	
37	106.2.2.	Indicate whether the thickened tailings are considered deleterious and/or acid forming, consistent with the tailings permit (M/035/0015).	pnb	

106.3 - Estimated acreages disturbed, reclaimed, annually

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
38	Omission	Include a brief statement about concurrent reclamation	lah	

106.4 - Nature of materials mined, waste and estimated tonnages

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
39	Page 7, Para 3	Include a brief statement about the secondary minerals extracted	lah	
40	Page 7, Omission	Discuss the nature of the ore, and provide geochemical characterization information consistent with industry standards for each ore type.	pnb	
41	Page 7, Omission	Discuss the nature of the tailings in more detail by summarizing the tailings characterization information from the tailings impoundment permit (M/035/0015).	pnb	

106.5 - Existing soil types, location, amount

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
42	Pg 8, Table 1	Please include the Hydrologic Soil Group classification in this table. This information is obtainable from the NRCS Web Soil Survey.	mpb	

106.8 - Depth to groundwater, extent of overburden, geology

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
43	Page 10 para 1	Include a table with the collar elevation, and the static water level in elevation, either at the time of drilling or an annual average.	lah	
44	Page 10 Para 2	Include a table with the lithologic units, such as a typical stratigraphic column. Include a description of each unit, or other comparable format. Also see comments on Figure 8 above	lah	
45		Are the KUC and the Copperton City culinary wells monitored under the KUC Groundwater Discharge Permit?	aa	

106.9 - Location & size of ore, waste, tailings, ponds

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
46	Page 7, Omission	Identify the total amount of course- and fine-crushed ore that is anticipated to be stored at this site. Identify typical volumes of stockpiled ore by ore type.	pnb	

106.10 – Amount of Material to be Extracted, Moved

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
47	Page 11, para 2	At face value, the statement that "No material is extracted or moved from the Copperton Concentrator" is incorrect. Modify to indicate whether any material native to the site of the permit facilities (including pipeline and conveyor) are extracted or moved.	pnb	

R647-4-108 - Hole Plugging Requirements

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
48	Page 11	Please commit to plug any of the KUC monitoring or culinary holes, as per R647-4-108, when they are no longer needed. Include in the cost estimate as a line item.	lah	

R647-4-109 - Impact Assessment

109.1 - Impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
49	Page 11-12, Omission	Identify projected impacts to surface and groundwater systems, including actions to mitigate projected impacts.	pnb	
50	Page 11-12, Omission	Identify and discuss mitigation plans to ensure that tailings do not leave the concentrator facilities and pipeline (such as by overflowing the drop boxes), consistent with the design of other existing or proposed water management features.	pnb	

R647-4-110 - Reclamation Plan

110.1 - Current & post mining land use

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
51	Pg. 14	Please identify the post-mining land use for the reclaimed areas of the concentrator facility.	mpb	
52	110.1	Please indicate what the county land-use/zoning designations are for the entire copper concentrator permit area. Please show what the post-mining land use zoning classification(s) will be based on current zoning classes.	aa	

110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
53	Page 14 Para 4	Please give more detail about the statement that surface structure will be razed. Concrete structures can be broken apart and buried with a proper depth of cover, but the soil distribution section of the reclamation plan does not .address this issue.	lah	
54	110.2	There is a small section of access road in the northeast section of the permit area (just immediately northeast of the Tailings Pipeline label) on Figure 9. Will this section of road remain or be reclaimed? Please indicate on Figure 9.	aa	

110.4 - Description or treatment/location/disposition of deleterious or acid forming materials, including map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
55	Page 15	Please commit to follow Utah DEQ standards and protocols regarding site cleanup of deleterious material. This would include more than just the non-recyclable chemicals, but also the native and non-native rock that is being processed in the permitted area.	lah	
56	Page 15, para 3	Refer to the map with the locations of deleterious or acid-forming materials upon completion of reclamation. (See R647-4-110.4 and the related map comment.) Refer to the tailings permit and its associated maps for discussion of any deleterious materials sent to the tailings impoundment for disposal via the tailings pipeline.	pnb	
57	Page 15	Describe the treatment, location and disposition of deleterious materials that will be left onsite, including the types and maximum amounts of such materials. Discuss containment and any cover and/or liner thicknesses to minimize potential impacts. Volumes to be moved as part of reclamation should be consistent with those used in reclamation cost calculations.	pnb	
58	Page 15, para 3	Identify the disposal plans for the post-reclamation water treatment sludge.	pnb	

110.5 - Revegetation planting program

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
59	Pg. 15, Sec 110.5.1	With ephemeral stream channels located immediately north and south of the facility, "site preparation" for reclamation should include installation of temporary perimeter erosion control best management practices (BMPs), and a menu of proposed BMPs to be used.	mpb	
60	Figure 9	Please include post-reclamation contours and locations of temporary perimeter erosion control BMPs.	mpb	
61	Page 16 Table 3	The Division would like to see trees, such as Gambel oak (or other species recommended by the operator) added to the final reclamation vegetation.	lah	
62	Note only	If any additional disturbance is needed in the future, the Division recommends to salvaging oak and placing it on top of the soil stockpiles.	lah	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
63	Demolition Cost Worksheet	Please include the reference numbers from BNi Cost Book for demolition costs.	whw	
64		Please remember that the reclamation cost estimate is based on worst-case scenario. In that scenario all equipment will have to be disposed of. Steel items can be taken to a recycling facility and disposed of at no charge added to the cost estimate.	whw	
65	Demolition Cost Worksheet	Please state where the debris will be taken and if the disposal costs include dump fees.	whw	
66	Demolition Cost Worksheet	Please state what the "factor for free area" is on the page with the heading "Copperton Concentrator Asphalt Removal."	whw	
67	Demolition Cost Worksheet	Please state where the asphalt will be disposed of. Show location on reclamation maps.	whw	
68	110.4	Please include more detail in the text and calculations how ore and or tailings materials will be handled during reclamation.	whw	
69	Earthwork Costs	Please provide more details about the earthmoving costs, such as location of borrow areas and haul distances. Also the type of equipment that will be used.	whw	
70		Please include as a line item the closure of all wells that will not be needed as part of the post mining land use.	whw	